Сводка формул для производных

$$C' = 0 \qquad x' = 1$$

$$(x^\mu)' = \mu x^{\mu-1}$$

$$\left(\frac{1}{x}\right)' = -\frac{1}{x^2} \qquad (\sqrt{x})' = \frac{1}{2\sqrt{x}}$$

$$(a^x)' = a^x \cdot \ln a \qquad (e^x)' = e^x$$

$$(\log_a x)' = \frac{1}{x\ln a} \qquad (\ln x)' = \frac{1}{x}$$

$$(\sin x)' = \cos x \qquad (\cos x)' = -\sin x$$

$$(\operatorname{tg} x)' = \frac{1}{\cos^2 x} \qquad (\operatorname{ctg} x)' = -\frac{1}{\sin^2 x}$$

$$(\arcsin x)' = \frac{1}{\sqrt{1-x^2}} \qquad (\arccos x)' = -\frac{1}{\sqrt{1-x^2}}$$

$$(\operatorname{arctg} x)' = \frac{1}{1+x^2} \qquad (\operatorname{arcctg} x)' = -\frac{1}{1+x^2}$$

Правила вычисления производных

$$(fg)' = f'g + fg'$$

$$\left(\frac{f}{g}\right)' = \frac{f'g-fg'}{g^2}$$

$$(f(g(x)))' = f'(g(x)) \cdot g'(x)$$